

**Topics:** Music, Science of sound

## Materials List

- ✓ Poster tube 1'-2' long
- ✓ 10 pushpins
- ✓ Ziploc bag/plastic wrap
- ✓ 5 rubber bands
- ✓ Tape
- ✓ Scissors/Box cutter

This activity can be used to teach:

Colorado Music Standard 2: Creation of Music

- Improvisation
- Rhythm

Grades: pk, k, 1, 2, 3, 4, 5, 6, 7, 8, HS

Colorado Science Standard 1: Physical Science

- Sound
- Properties

Grades: k, 1, 4, 6, 8, HS



2875 Blake Street • Denver, CO 80205

# Drum-tar-phone

Be a one man band with this drum-guitar-microphone



Explore music, science, or just jam!

## Assembly

1. Make sure the tube is the proper length, cutting if necessary. Player should be able to comfortably reach one end of the tube while the other end is pressed to their mouth.
2. Cut out a square or circle about 3" from the bottom of the tube. It should be wide enough for the five rubber bands to stretch across. This is the sound hole. (This is prep that should be done prior to working with young students).
3. Below the hole, insert five pushpins in a straight line, evenly spaced. This is the saddle.
4. Above the sound hole, insert the remaining five pushpins in an ascending line. This will create differently pitched strings.
5. Stretch the rubber bands from pushpin to pushpin across the sound hole.
6. Cut a piece of plastic wrap or Ziploc bag larger than the opening of the tube. Stretch across the end of the tube closest to the sound hole and secure with tape.

## To Do and Notice

1. Hold the drum-tar-phone so that you can play the strings with one hand and beat the drum with the other. Hold the open end to your mouth and sing. All three sounds will emanate from the sound hole.
2. Play the strings. Why does each string sound differently? What would happen if you stretched the rubber band farther?
3. Try each aspect of the instrument separately and note the vibrations you feel on the tube. How does the volume coincide with the amount of vibration?

## The Content Behind the Activity

This activity allows children to learn about music expression and creation while experimenting with sound in a very hands-on way. Students will begin to recognize sound as vibrations, or waves, and understand amplification, amplitude and pitch.

Sound is caused by vibrations that travel in compression waves through the air and into the ear. Once hitting the eardrum, the sound is sent to the brain's auditory cortex where it is analyzed and interpreted. Objects make different sounds (louder, higher pitch, etc.) because of their size, density, and intensity of collisions.

## Taking it Further

Look around. Can you see any instruments in the everyday objects around you? Do you see anything you could add to the drum-tar-phone to make it even more instruments in one?